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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/031,787  | 05/20/2002  | Claudia Wiegand      | MERCK 2341          | 5718             |
| 23599   | 7590        | 02/17/2004           | EXAMINER            |                  |
| MILLEN, WHITE, ZELANO & BRANIGAN, P.C.<br>2200 CLARENDON BLVD.<br>SUITE 1400<br>ARLINGTON, VA 22201 |             |                      | OLSEN, ALLAN W      |                  |
|   |             | ART UNIT             | PAPER NUMBER        |                  |
|   |             | 1763                 |                     |                  |

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |                             |
|------------------------------|-----------------|-----------------------------|
| <b>Office Action Summary</b> | Application No. | Applicant(s)                |
|                              | 10/031,787      | WIEGAND ET AL.<br><i>eb</i> |
| Examiner                     | Art Unit        |                             |
| Allan W Olsen                | 1763            |                             |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 08 December 2003.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,4,5 and 7-16 is/are pending in the application.  
 4a) Of the above claim(s) 8-13 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,4,5,7 and 14-16 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

Applicant's traverse of the restriction requirement is acknowledged. The traversal is on the grounds that all the claims relate to hydrofluoric acid etching solutions. Because the search for each invention comprises overlapping subject matter the search and examination of all claims can be made without serious burden. This is not found persuasive because one overlapping aspect does not negate the additional aspects that are added by limitations that are present in the method claims but are not pertinent to the composition claims.

The requirement is still deemed proper and is therefore made FINAL. The Examiner notes Applicant's intention to request rejoinder according to MPEP 821.04.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1 and 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,316,370 issued to Mercaldi et al. (hereinafter, Mercaldi).**

Mercaldi teaches a composition comprising a mixture of alcohols and hydrofluoric acid. Mercaldi teaches the alcohols may comprise glycerol, ethylene glycol, propylene glycol and ethanol. Mercaldi teaches in a preferred embodiment a composition comprising alcohol, nitric acid and hydrofluoric acid. Mercaldi teaches an alcohol : nitric acid : hydrofluoric acid ratio of 10-50 : 5-40 : 1 which corresponds to Applicant's claimed composition. See: abstract; column 3, line 45 – column 4, line 20.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***Claims 4, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mercaldi.***

The above noted teachings of Mercaldi are herein relied upon.

Mercaldi does not teach an alcohol mixing ratio of 1:5 to 5:1. Mercaldi does not teach using high purity components in the etching mixture.

Because Mercaldi teaches that the glycerol and ethylene glycol are functional equivalents and each can be used independently of the other, it would be obvious when using a mixture of these two equivalent components to first select a 1:1 mixing ratio. It would be obvious to use high purity components so that the etching solution is not a source of contamination.

***Claims 1, 4, 5, 7 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deckert.***

Art Unit: 1763

Deckert teaches HF/glycerol and HF/ethylene glycol compositions. Deckert teaches preparing an etching solution by adding 100 mL of concentrated HF (49 % HF by weight) to glycerol to make 1 liter of solution. Deckert teaches that this solution is 3M in HF. Therefore, the 1 L of prepared solution contains 3 moles of HF, which is about 60 grams of HF. Because a 49% HF solution has a density of 1.19 g/mL, the 100 mL of concentrated HF contributes 119 grams to the total mass of the solution. The balance of the solution is about 900 mL of glycerol which, given its density of 1.26 g/mL, would have a mass of about 1134 grams. These numbers provide for HF and H<sub>2</sub>O concentrations that correspond to the claimed ranges.

Deckert does not teach mixing ethylene glycol and glycerol with a ratio of 1:5 to 5:1. Deckert does not teach using high purity components in the etching mixture.

It would have been obvious for one skilled in the art to make the etching solution of Deckert with a mixture of glycerol and ethylene glycol because "[i]t is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose." *In re Kerkhoven* 205 USPQ 1069 (CCPA 1980). Cites *In re Susi* 169 USPQ 423, 426 (CCPA 1971); *In re Crockett* 126 USPQ 186, 188 (CCPA 1960). See also *Ex parte Quadranti* 25 USPQ 2d 1071 (BPAI 1992). Because glycerol and ethylene glycol can be used independently of the other, it would be obvious when using a mixture of these two equivalent components to first select a 1:1 mixing ratio. It would be obvious to use high purity components so that the etching solution is not a source of contamination.

***Allowable Subject Matter***

The previously indicated allowability of claim 14 is withdrawn.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patents 3,616,098 (Falls), 5,376,236 (Hanson et al.), 5478,436 (Winebarger et al.) and 6,562,726 (Torek et al.) could each be applied against the instant claims. However, in view of the foregoing rejections, these references are not relied upon at this time. US Patents 5,635,338 (Joshi et al.) and 5,872,046 (Kaeriyama et al.) are also considered relevant.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allan Olsen whose telephone number is 571-272-1441. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Mills, can be reached on 571-272-1439.

The fax number for TC1700 is 703-872-9306 (non-after finals and after-final).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1300.

Allan Olsen, Ph.D.  
February 4, 2004

*Allan Olsen  
1<sup>st</sup> Examiner*